

The listing of the claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Currently Amended): (currently amended). Synthesis furnace (1) having a furnace chamber (3) surrounded by a circumferential furnace wall (2), in which a plurality of burners (5) disposed essentially in one plane, with burner exit direction directed downward, whereby at least the outer burners (5) disposed in the region of the furnace wall (2) have a burner exit direction (R) that is inclined relative to the vertical, leading away from the center of the furnace, and in which a plurality of reaction tubes disposed essentially vertically and parallel to one another are disposed, whereby the reaction tubes are being heated from the outside, by means of the firing burners (5),

~~wherein at least the outer burners (5) disposed in the region of the furnace wall (2) have a burner exit direction (R) that is inclined relative to the vertical, leading away from the center of the furnace the incline of the burner exit directions (R) of the individual burners (5) is different.~~

Claim 2 (Canceled).

Claim 3 (Currently Amended): Synthesis furnace according to

claim 2 1, wherein the incline of the burner exit directions (R) of the burners (5) increases toward the outside, toward the furnace wall (2), proceeding from the center of the furnace.

Claim 4 (Previously Presented): Synthesis furnace according to claim 1, wherein the incline angle, proceeding from the center of the furnace, lies between 0 and 10°, preferably between 0 and 5°.

Claim 5 (Previously Presented): Synthesis furnace according to claim 1, wherein the burners (5) are installed with inclined burner exit direction (R), in total, and/or their burner exit opening is disposed at an incline.

Claim 6 (Previously Presented): Synthesis furnace according to claim 5, wherein the incline of the burner exit directions (R) is adjustable.

Claim 7 (Previously Presented): Synthesis furnace according to claim 6, wherein in order to adjust the inclines, a control that takes the operating parameters of the synthesis furnace into account is provided.